

REMARKS/ARGUMENTS

Applicant appreciates the consideration shown by the Office, as evidenced by the Office Action, mailed on 18 June 2007. In that Office Action, the Examiner referenced a restriction requirement and rejected claims 1-30. After consideration of the Office Action, claim 13 has been amended, and claims 1-12, 17, and 31-34 have been canceled. Claims 13-16 and 18-30 are under consideration in the present application. Applicant respectfully requests reconsideration of the application by the Examiner in light of the above amendments and the following remarks.

Election/Restrictions

Applicant affirms the election of Group I claims 1-30 and withdraws the traverse. Applicant has canceled non-elected claims 31-34.

112 rejection of all pending claims

Although Applicant is not in agreement with the rejections, to expedite prosecution, Applicant has canceled claims 1-12 and 17. Additionally, Applicant has amended claim 13 to include the subject matter of canceled claim 17 and thus bring the substrate into the independent claim as suggested by the Examiner.

102 generally

For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Accordingly, Applicants need only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter. The prior art reference also must show the *identical* invention "*in as complete detail as contained in the ... claim*" to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

102(e) rejection of claim 13 on Hwang US20040161575

In response to the 112 rejection, claim 13 has been amended to include the subject matter of claim 17 (the substrate). Claim 17 had been rejected under Nomura 2 (Nomura JP2002133720).

Applicant respectfully submits that Hwang does not teach or disclose the claim 13 recitations of "a mask layer ... comprising a **nonlinear optical material**." Accordingly, Applicant respectfully the withdrawal of the 102(e) rejection of claim 13 on Hwang.

102(b) Rejection of claim 13 on Nomura, Japanese Journal of Applied Physics (Nomura 1)

As stated above, claim 13 has been amended to include the substrate of claim 17 (which was rejected under Nomura 2).

Applicant respectfully submits that Nomura 1 does not teach or disclose the claim 13 recitations of "a mask layer ... comprising a **nonlinear optical material**." Accordingly, Applicant respectfully the withdrawal of the 102(b) rejection of claim 13 on Nomura 1.

102(b) Rejection of claims 13-15, 17, 20, 23-24 on Nomura JP2002133720 (Nomura 2)

Applicant respectfully submits that Nomura 2 does not teach or disclose the claim 13 recitations. Claim 17 has been moved into claim 13 and canceled. Claims 14-15, 20, and 23-24 depend from claim 13.

Applicant respectfully submits that Nomura 2 does not teach or disclose the claim 13 recitations of "a mask layer ... comprising a **nonlinear optical material**." Accordingly, Applicant respectfully the withdrawal of the 102(b) rejection of claim 13 (as well as claims 14-15, 20, and 23-24 which depend therefrom) on Nomura 2.

102(b) Rejection of claims 13, 19-20, and 22 on Iida EP 480346

As stated above, claim 13 has been amended to include the substrate of claim 17 (which was rejected under Nomura 2). Claims 19-20 and 22 depend from claim 13. Claim 13 has additionally been amended to provide more information regarding the role of the nanoparticles. Support for this amendment may be found, for example, in Applicants' paragraphs 6, 7, and 16.

Applicant respectfully submits that Iida does not teach or disclose the claim 13 recitations of "a mask layer ... comprising a **nonlinear optical material and nanoparticles embedded in the nonlinear optical material, wherein the nanoparticles are configured for increasing a local field intensity**."

In Iida, the semiconductor nanoparticles are not embedded into a nonlinear optical material (instead the particles appear to be added to the mask material to create the non-linearity) and are not described relative to increasing local field intensity.

Accordingly, Applicant respectfully the withdrawal of the 102(b) rejection of claim 13 (as well as claims 19-20 and 22 which depend therefrom) on Iida.

103 generally

In addressing obviousness determinations under 35 USC 103, the Supreme Court in *KSR International Co. v. Teleflex Inc.*, No. 04-1350 (April 30, 2007), reaffirmed many of its precedents relating to obviousness including its holding in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). In *KSR*, the Court also reaffirmed that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.* at 14. In this regard, the *KSR* court stated that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does ... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* at 14-15. Furthermore, the *KSR* court did not diminish the requirement for objective evidence of obviousness. *Id.* at 14 ("To facilitate review, this analysis should be made explicit. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness").

103(a) Rejections

Claims 16 and 19 were rejected under Hsu US2002154596 in view of Hwang, Nomura 1, or Nomura 2. Claims 16 and 19 depend from claim 13 which is believed to allowable over the applied references for the reasons discussed above. The Office Action (page 8) states that Hsu does not teach a mask layer comprising nanoparticles embedded in a non-linear optical material. As discussed above, Applicant also submits that none of Hwang, Nomura 1, or Nomura 2 teach this either. Accordingly, Applicant respectfully requests the withdrawal of the 103(a) rejection of claims 16-19 on the applied references.

Claim 21 was rejected on Iida and Kim WO2004029936, claims 25 and 28-30 were rejected Nomura 2 in view of Perry WO0248432 (US20040079195), and claims 27-27 were rejected on Nomura 2 in view of Sonnichsen, Physical Review Letters. Vol. 88, No. 7, 2002.

These remaining pending claims rejected under 103(a) (claims 18, 21, 25, 22-30) also are each dependent upon claim 13 which Applicant believes to be in condition for allowance Iida and Nomura 2 for the reasons discussed above. Furthermore, Applicant traverses some of the statements regarding the teachings and obviousness.

As one example, with respect to claim 21, as stated above, Iida uses the semiconductor particles to create non-linearity. There does not appear to be any suggestion that such particles would have any purpose or role in a system where a mask material is inherently nonlinear. Thus Applicant traverses the statement on page 10 of the Office Action that it would be obvious to modify the layer of Iida with the non-linear material of Kim. Applicant further requests that, if the Examiner continues to believe such modification to be obvious, the Examiner provide more explicit objective evidence of the obviousness and some indication of a reason why one of ordinary skill in the art would have been prompted to make this combination.

Summary

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Should the Examiner believe that anything further is needed to place the application in better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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